Testimony of
Bob Chipkevich, Director
Office of Railroad, Pipeline and Hazardous Materials Investigations
National Transportation Safety Board
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Subcommittee on Highways, Transit and Pipelines
Committee on Transportation and Infrastructure
U.S. House of Representatives
Regarding Pipeline Safety
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Good morning Chairman Petri and Members of the Subcommittee. My name is Bob Chipkevich, and I am Director of the National Transportation Safety Board's (NTSB's) Office of Railroad, Pipeline and Hazardous Materials Investigations. NTSB Chairman, Ellen Engleman Conners, has asked me to represent the Board and its 429 dedicated professionals today to discuss NTSB's safety recommendations concerning pipeline safety issues, and it is my privilege to do so.

Pipelines carry nearly two-thirds of the energy consumed in the United States. Nearly 200,000 miles of hazardous liquid pipelines deliver approximately 14.4 billion barrels of petroleum products annually, and over 2 million miles of pipe carry more than 21 trillion cubic feet of natural gas annually.

Since I last testified before this Subcommittee in February 2002, the Research and Special Programs Administration (RSPA) has completed several significant activities to improve pipeline safety, including pipeline integrity assessment programs, damage

prevention activities and improved data collection--all actions that are responsive to NTSB recommendations.

In February 2002, there were 42 open pipeline safety recommendations to RSPA, and 6 were classified as unacceptable action. Today, there are 10 open pipeline safety recommendations. All are in an open acceptable action status.

In February 2002, RSPA's historical acceptance rate for pipeline safety recommendations was 69.9 percent, the lowest of all modal administrations. Today, that acceptance rate is 74.9 percent--a significant improvement that spans the period from 1967 to 2004. Since February 2002, 39 open pipeline safety recommendations have been closed, all with acceptable action.

In December 2000, RSPA issued a final rule requiring hazardous liquid pipeline operators to establish pipeline integrity assessment programs and, in December 2003, similar requirements were mandated for natural gas transmission lines. As a result, these pipeline operators are required to initiate and follow a pipeline integrity management program for high consequence areas and to evaluate entire pipelines for lessons learned in high consequence area assessments. Critical areas of the program are the implementation of required testing to identify and remedy corrosion and other time-dependent pipeline damage, and validation of the safety of pipelines operating at their maximum operating pressures. The pipeline operators must then address any risks to pipeline safety, including repairs and pressure reductions as necessary.

The Safety Board has supported RSPA's rulemaking efforts in this area. And, as a result of these new requirements, on April 21, 2004, the Safety Board closed as acceptable action safety recommendations that had been open since 1987 calling for such requirements.

However, RSPA must now ensure that pipeline operators implement effective integrity management programs. As the Safety Board has previously noted, risk management principles, if properly applied, can be powerful tools to identify the risks to pipeline integrity and should lead operators to take action to mitigate those risks. Quantifying inputs into various risk management models, however, can be difficult and subjective. To ensure that the new rules for risk-based integrity management programs are effectively employed throughout the pipeline industry, it is important that RSPA establish an effective evaluation program and aggressively examine and monitor operators' pipeline integrity programs.

Excavation damage continues to be a leading cause of pipeline accidents. As a result of NTSB accident investigations, we have over the years issued numerous safety recommendations regarding this issue. The Safety Board believes that RSPA's use of the Common Ground Alliance (CGA) has been an effective means of addressing factors that contribute to excavation damage. The CGA has been able to develop consensus on safety issues affecting underground utilities and the construction industry, and its "Best Practices" for preventing damage to underground facilities can be an important tool. The Safety Board believes the CGA's role in helping RSPA improve damage prevention programs and technologies can be effective in reducing excavation-related accidents.

RSPA also has responded effectively to safety recommendations for improved pipeline mapping requirements and data collection. Data that is required to be reported on pipeline accident reports to RSPA, as well as efforts to improve the development of exposure data, can help both RSPA and the industry more effectively target factors that can reduce pipeline accidents due to excavation activities. The new reporting requirements include information that the Safety Board believes also will assist RSPA with operator evaluations and trend analyses.

Work needs to continue in several areas to reduce accidents caused by excavation damage. We are aware that RSPA is continuing to fund several research projects that can help address excavation damage safety issues. These include the following:

- improved pipeline location technologies;
- improved inspection technologies to find pipe defects;
- real time monitoring to detect mechanical damage and leaks;
- improved trenchless technologies to avoid potential damage to underground facilities; and
- new materials for pipe with greater toughness characteristics.

However, there is some action that we believe can be taken now to reduce the consequences of excavation accidents. In 2001, after investigating an accident in South Riding, Virginia, the Safety Board again recommended that RSPA require gas pipeline operators to install excess flow valves in all new and renewed gas service lines when the operating conditions are compatible with readily available valves. Excess flow valves can effectively stop the flow of natural gas service when service lines are broken or joints

are pulled apart during excavation related activities. RSPA requires gas distribution operators to notify customers about the availability of these valves, but only about half of the operators currently install these safety valves as an operating practice. RSPA had contracted with the Volpe National Transportation Center to examine excess flow valve issues, including current technologies and standards. Because excavation activities are a leading cause of pipeline accidents and because excess flow vales can effectively shut off the flow of gas to damaged service lines, the Safety Board believes that excess flow valves can reduce the consequences of these types of accidents and that action on this safety issue needs to move forward.

Other safety issues with open recommendations address the need for determining the susceptibility of some plastic pipe to premature brittle-like cracking problems; ensuring that pipelines submerged beneath navigable waterways are adequately marked and protected from damage by vessels; and requiring that new pipelines be designed and constructed with features to mitigate internal corrosion. Actions on these safety recommendations are currently classified as acceptable action by the Board.

Mr. Chairman, that completes my statement, and I will be happy to respond to any questions you may have.